

BOBBLE HEAD SHAKER

Background of the Invention

Field of the Invention

5 The present invention relates to a shaker device, and in particular to a shaker device used for shaking bobble head dolls to impart a continuous oscillating motion causing the head of the doll to bobble.

Description of the Prior Art

Bobble heads have existed for many years and provide entertainment from the 10 amusing shaking motion of the doll's head. Bobble head dolls have become quite popular and collectible, however it has been necessary to manually deflect the base of the doll or the doll's head to impart a bobbing motion. However, such motion discontinues after a short period of time and repeated manual agitations of the base or taps to the head of the doll are not practical in order to achieve a pleasing and entertaining continuous motion. It can be 15 appreciated that bobble head dolls are often displayed in prominent positions wherein continuous motion of an extended duration is desirable. Therefore, a need arises not only for a device that imparts an oscillating motion to cause the head to bobble, but for such a device to be a particular size that accommodates the bobble head while providing an overall pleasing display of the doll sitting upon the shaker. Moreover, the shape, size, and quality 20 of bobble head dolls vary so that different frequencies and motions are needed to impart a pleasing bobbling motion to the dolls' heads for a wide range of dolls. The shaker apparatus needs to be able to impart a proper variable frequency to accommodate the various shapes, sizes and weights of bobble head dolls.

It can be seen then that a bobble head shaker is needed that provides a pleasing and 25 continuous bobbing motion to the head of a bobble head doll. The present invention provides for imparting the bobbing motion to the doll's head and for accommodating various different kinds of bobble head dolls. In addition, such a shaker should provide for easy

variability of imparted bobbing motion to the head of the doll while also providing a pleasing overall appearance as a display platform for the doll. The present invention addresses these as well as other problems associated with bobble head doll shaking.

Summary of the Invention

5 The present invention is directed to a bobble head shaker apparatus for imparting an oscillating motion to the head of the bobble head doll. The shaker generally includes a base and housing with a moving platform having an upper bobble head doll supporting surface that imparts a motion to the doll causing the head to bobble. The housing generally includes a motor and an agitator that engages the underside of the platform. The motor is preferably 10 adjustable so that oscillation speed may be adjusted to optimize the speed needed for achieving the desired motion of the bobble head doll head. The motor typically drives an agitator that engages the platform to impart the oscillating motion through engagement elements that engage complementary elements extending down from the underside of the moving platform. Different agitators may be interchanged so that other agitators having 15 fewer or more engagement elements and taller or shorter engagement elements may be utilized to further vary the motion of the supporting base.

20 The supporting platform has an upper surface larger than the base of the bobble head doll. The platform is hingedly connected at one edge and includes a latch at the opposite edge to provide access to the interior of the shaker apparatus to interchange agitators or make other adjustments. The platform imparts a greater motion at the edge opposite the hinge than near the hinge. The bobble head doll head motion may therefore be varied by moving the bobble head doll on the platform relative to the hinge. In addition, the surface is preferably a semi-adhesive surface so that the bobble head doll does not slide from vibration. A small riser element may be selectively used that raises an edge of the bobble 25 head doll base, thereby increasing the doll's instability on the supporting platform producing alternative oscillating motions to the doll's head. By utilizing such a riser element, the doll will not set flush on the supporting platform and may roll slightly, increasing and/or changing the produced head bobbing motion.

It can be appreciated that by varying the position of the doll on the supporting platform, and/or by varying the oscillation speed of the supporting platform and the amplitude of the up and down motion, the motion of the bobbling head may be varied to achieve a desired motion. Moreover, if additional motion is needed, a small semi-adhesive 5 riser element may be placed between the base of the bobble head doll and the supporting platform to elevate one edge of the bobble head doll's base, thereby enabling additional bobbling motions to be imparted by the movements of the supporting platform. By changing the various parameters, a pleasing and entertaining oscillating motion of the bobble head doll's head may be achieved for a wide range of dolls having different 10 characteristics.

These features of novelty and various other advantages that characterize the invention are pointed out with particularity in the claims annexed hereto and forming a part hereof. However, for a better understanding of the invention, its advantages, and the objects obtained by its use, reference should be made to the drawings that form a further part hereof, 15 and to the accompanying descriptive matter, in which there is illustrated and described a preferred embodiment of the invention.

Brief Description of the Drawings

Referring now to the drawings wherein like reference numerals indicate corresponding structure throughout the several views:

20 Figure 1 is a perspective view of a bobble head shaker apparatus and a bobble head according to the principles of the present invention;

Figure 2 is a side sectional view of the shaker apparatus shown in Figure 1;

Figure 3 is a side sectional view of the shaker apparatus shown in Figure 3 with the moving base raised;

25 Figure 4 is a top plan view of the shaker mechanism;

Figure 5 is a detail view of an alternate embodiment of an agitator element for

imparting motion a different motion; and

Figure 6 is a control diagram for the shaker apparatus shown in Figure 1.

Detailed Description of the Preferred Embodiment

Referring now to the drawings, and in particular to Figure 1, there is shown a bobble head shaker apparatus, generally designated 20 and supporting a bobble head doll, generally designated 100. The bobble head doll 100 typically includes a body 102 with a base 104. A head 106 is supported on the body 102 by a spring such that when the head 106 is touched, motion is imparted and the head will tend to "bobble" in an amusing/entertaining oscillating motion. Bobble head dolls 100 often are caricatures of sports figures or other celebrities and are highly collectible. It is often desired to display the bobble head dolls 100 so that the head 106 bobbles continuously for a certain period of time. It is also often desired that the bobble head dolls be pleasingly and attractively displayed for viewing without being in motion.

The shaker apparatus 20 provides for imparting a continuous motion to the bobble head 106, and for pleasingly displaying a bobble head doll 100 at rest. The shaker apparatus 20 generally includes a compact housing 22 having a rim 28 and mounted on a base 24. A round platform 26 supports the bobble head doll 100 and is moveable as explained hereinafter to impart motion to the bobble head doll 100 and bobble the doll's head 106. The shaker 20 generally also includes a motor 30. The motor 30 may include a power source such as a battery compartment 44 receiving batteries, a battery pack, or may include a cord for plugging into an AC outlet, such as is well known in the art. As shown in Figure 6, the control system may also include a speed control 60, such as a rheostat, to vary the speed of oscillation, a switch 32 for turning the shaker 20 on and off, and an actuator 62 so that the shaker 20 will turn on at selected times. This allows for selectively having continuous motion, but saving power while people are not present. The actuator 62 may be a remote control, a sound detector or other well known actuator.

Referring to Figures 2 and 3, the housing 22 and base 24 contain the motor 30 and are connected by screws attaching to alignment members 36. A removable and

interchangeable agitator 38 is driven by the motor 30 and engages the moving platform 26. It can be appreciated that in order to vary amplitude and/or frequency of the oscillations, other agitators 40 may be stored in the housing 22 and may be interchanged with the agitator 38, as shown in Figure 5. The agitators 38 and 40 include ramped engagement portions 42 that engage and lift a complementary engagement member portion 56 on the platform 26, as explained hereinafter to impart motion to the platform 26 and oscillation to the bobble head doll 100. It can be appreciated that by varying the number of engagement portions 42 or the height of the engagement portions 42, the type of motion imparted to the bobble head doll 100 may be varied without using a rheostat or other control device. As shown in Figures 2 - 5, the agitator 38 has four engagement portions 42, while the agitator 40 includes six engagement portions, as shown in Figure 5. The agitator 40 will cause an up and down frequency one and a half times the frequency of the agitator 40. It can be appreciated that other agitators having fewer or more engagement portions 42 and/or different profiles may also be used to achieve other frequencies and motions.

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15 As shown in Figures 2 and 3, the platform 26 mounts to the housing 22 on a hinge 50. A latch 54 that may be released to access the interior of the housing 22 retains the platform 26 at an opposite edge. Such access allows for users to change agitators and for storage of alternate agitators within the housing 22. The moving platform 26 also includes damping foam 52 placed intermediate the housing 22 and the platform 26 to decrease noise 20 and soften the oscillating motion. The underside of the platform 26 includes an agitator engagement portion 56 extending downward. The agitator engagement portion 56 engages the complementary engagement portions 42 from the agitator 38 so that when the two portions are engaged, the platform 26 is pivoted upward, as shown in Figure 3. When the engagement portions 42 and 56 disengage, the platform 26 drops down again, as shown in 25 Figure 2. This engagement and disengagement imparts a continuous up and down motion to the platform 26. It can be appreciated that with the hinge connection 50 between the platform 26 and the housing 22, the oscillating motion is oriented along an axis rather than a straight up and down motion. This provides a slight tilt to the bobble head doll 100 while imparting the bobbling motion. It has been found that such a motion also imparts greater 30 amplitude further from the hinge 50 than closer to the hinge 50. This allows for changing

the position of the bobble head doll 100 on the platform 26 or rotating the doll's base 104 on the platform 26 to arrive at a position wherein the preferred oscillating motion is achieved. The overall amplitude can be increased or decreased simply by moving the bobble head doll 100. This is important for optimizing motions of dolls 100 having different densities, 5 weights and sizes.

In addition, it has been found that bobbling may, in some instances, be enhanced if the base 104 of the bobble head doll 100 is not sitting flush on the platform 26. As shown in Figure 2, a small removable riser element 58 may be placed on the platform 26 to raise up one edge of the base 104. Such an element 58 makes the bobble head doll 100 slightly less 10 stable and affects the motion of the bobble head doll 100. It can be appreciated that the element 58 may be somewhat adhesive so that the bobble head doll 100 is held in place. Moreover, the platform 26 may also have a non-slip upper surface so that the bobble head doll 100 does not move from its preferred position by vibration. Furthermore, the shaker apparatus 20 is stabilized by semi-adhesive feet attached to the bottom of the base 24 that 15 will prevent the shaker 20 from moving on the surface on which it has been placed, and which will increase the energy of motion imparted by the shaker's active operation to the bobble head doll 100 in place upon it.

It can be appreciated that with the varied amplitude by moving the position and/or orientation of the doll 100 on the platform 26, the ability to increase the instability of the 20 doll 100 by adding an element 58 and the variability by changing the amplitude and speed with a different agitator or rheostat, the present invention provides for achieving a bobble head motion that meets the needs of a wide range of bobble head dolls.

In use, the bobble head doll 100 is placed on the moving platform 26 inside the rim 28 of the housing 22 as shown in Figure 1. The switch 32 is then actuated. The motor 30 25 rotates the agitator 38. The engagement portions 42 of the agitator element 38 engage and lift the agitator engagement portion 56 of the platform 26. This causes the platform 26 and the bobble head doll 100 to rise and fall, as shown in Figures 2 and 3. This motion imparts a bobbling motion to the bobble head doll head 106.

If the motion is too fast, too slow, too great or too slight, adjustments may be made. For example, the rheostat 60 may be utilized to speed up or slow down the speed of the motor and therefore the frequency of the up and down motion of the platform 26. In addition, a different agitator 40 having fewer or more engagement portions 42 or having 5 different profiles may be substituted for the agitator 38. Moreover, the position of the bobble head doll 100 on the platform 26 may be moved closer or further from the hinge 50 so that the total up and down travel distance of the bobble head doll 100 is increased or decreased. The orientation of the doll 100 may also be changed by simply rotating the doll 100. Furthermore, an element 58 may be inserted under one edge of the bobble head base 10 104 to impart additional instability to the bobble head doll 100 and increase the motion of the doll. Various adjustments may be made to each of these features until the desired bobbling motion of the doll's head 106 is achieved. It has been found that typical bobble head dolls 100 achieve a pleasing bobbling motion when the frequency of the platform 26 is in the range of 20 to 50 cycles per minute. It can be appreciated that the various parameters 15 may be mixed and matched to achieve a wide range of amplitudes and frequencies and corresponding motions.

It is to be understood, however, that even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and 20 changes may be made in detail, especially in matters of shape, size and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.